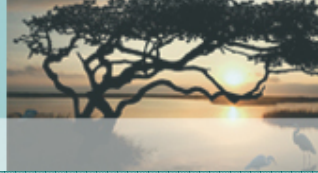


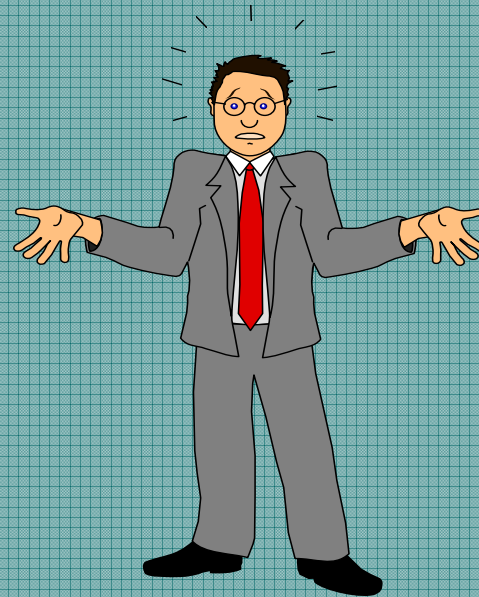
US EPA ARCHIVE DOCUMENT

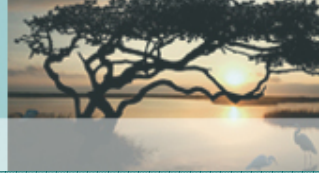




# ***DOES RCRA APPLY TO YOUR OPERATIONS?***

- Do you generate hazardous waste?
- How much?

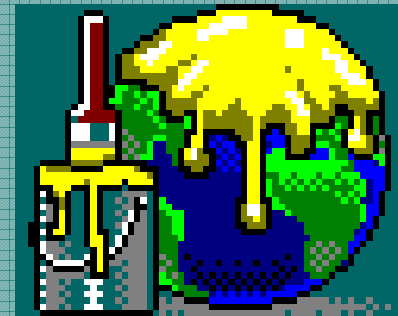






# *Florida Department of Environmental Protection*

## WHAT IS A HAZARDOUS WASTE?



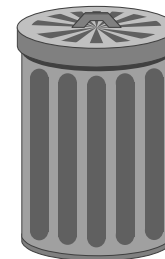


# HW ?

## 4 QUESTION TEST

---

- Is the material a solid waste?
- Is the waste excluded by regulation?
- Is the waste a listed hazardous waste?
- Is the waste a characteristic hazardous waste?

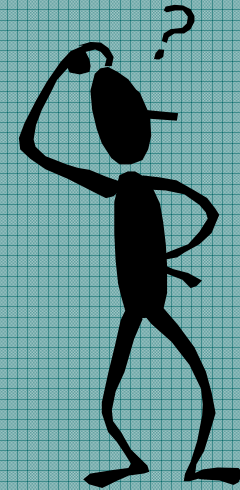




# Q 1

## Is the material a **solid waste**?

- Waste can be either solid, liquid, or gas
- Is material discarded by being \_\_\_\_\_?
  - Abandoned
  - Inherently waste-like
  - discarded military munitions
  - recycled







## Q 2

## Is the waste excluded by regulation?

---

- 15 exclusions - Not a SOLID WASTE
  - Radioactive waste (DOE)
  - Farming irrigation return flow
  - Shredded circuit boards
- 13 exemptions - Not a HAZ WASTE
  - Household Haz Waste
  - Agricultural Waste
  - Mining and Drilling Waste



## Q 3 *Is the waste a listed hazardous waste?*

- **F** - HW from non-specific sources
  - spent cleaning solvents, electroplating waste
- **K** - HW from specific sources
  - petroleum or metals production, ink formulation
- **P** - **Acutely** toxic
  - arsenic oxide, endrin, phosgene
- **U** - Off-spec chemical products
  - methyl-ethyl-ketone (MEK), acetone, toluene





## ***F001 – F005 Listed Solvents***

---

- **F001 & F002 (T)– Common Halogenated solvents used for degreasing & cleaning**
- **F003 (I)– Ignitable only (e.g. Acetone, Methanol, ether, xylene)**
- **F004 (T)– Cresols (o, m, p) and Cresylic Acid**
- **F005 (I,T)– Toluene, MEK, pyridine, etc.**



## Q 4 *Is the waste a characteristic hazardous waste?*

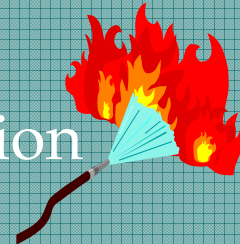
- IGNITABILITY -  $FP < 140^{\circ}F$  D001
- CORROSIVITY -  $pH \leq 2, \geq 12.5$  D002
- REACTIVITY - explosive / react violently D003
- TOXICITY - threaten human health D004 - 43





## ***IGNITABILITY - D001***

- **Liquid** - flashpoint < 140 degrees F or alcohol content  $\geq 24\%$ . **Isopropyl alcohol/FP 53 °F**
- **Solid** - ignite thru friction, absorption of moisture, or spontaneous combustion.  
**Phosphorus, Sodium**
- **GAS** - Ignitable compressed **LP gas**
- **Oxidizer** - initiate/promote combustion  
**hydrogen peroxide, MEKP (catalyst)**

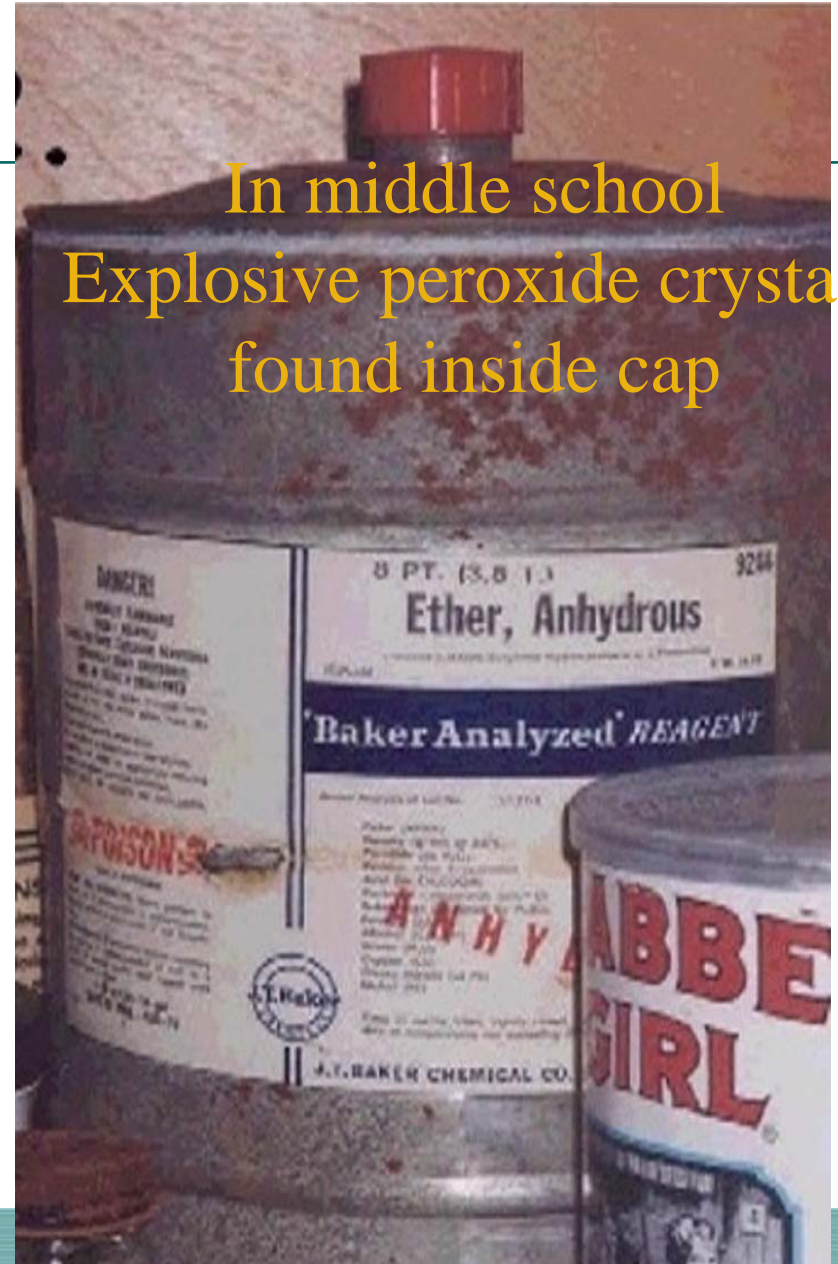




*Curious George*  
© 1995 and © HMCo.



In middle school  
Explosive peroxide crystals  
found inside cap

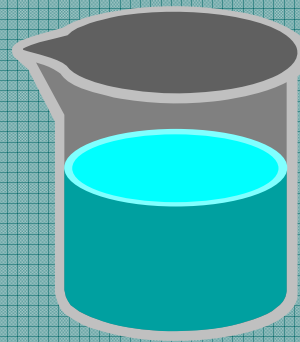




## ***CORROSIVITY - D002***

---

- Liquid with a  $\text{pH} \leq 2.0$  or  $\geq 12.5$ 
  - etching acids for plate making

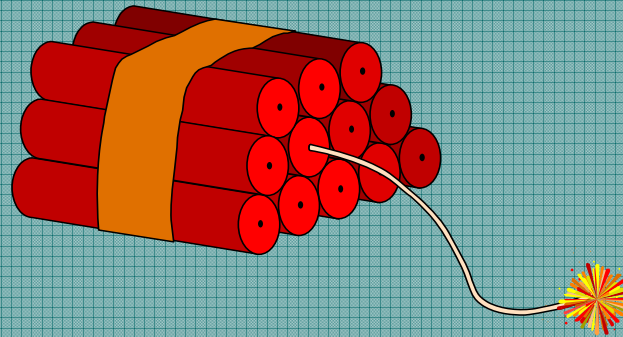




## ***REACTIVITY - D003***

---

- In contact with water, shock, heat, or pressure, the material may undergo a rapid or violent chemical change.



What happens when  
peroxidized solvents  
are distilled



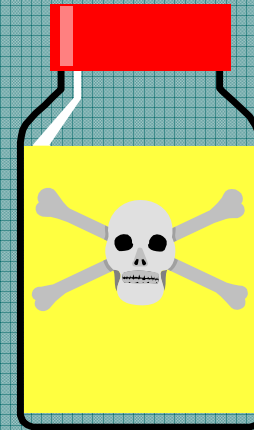


## *TOXICITY - D004 - D043*

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- 8 metals and 31 organics
  - silver, lead, chromium
  - MEK, benzene, chloroform

TCLP

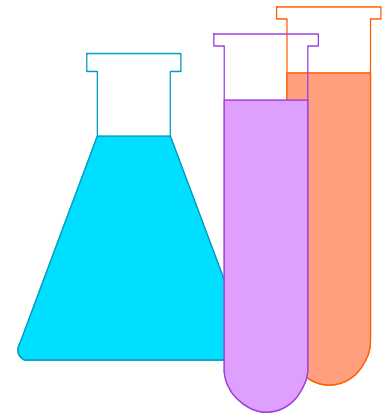
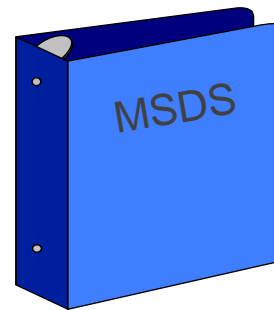
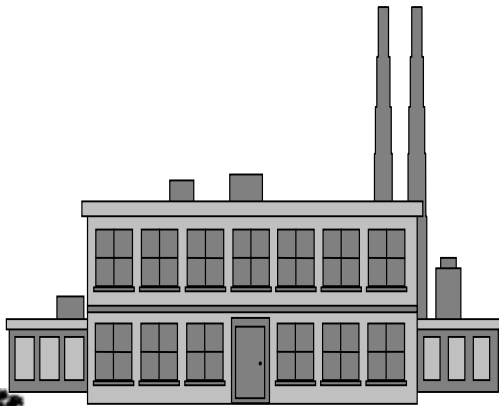




# *WHAT IS A HAZARDOUS WASTE?*

## *Waste Determination methods*

- Process or product knowledge
- Material Safety Data Sheets (MSDS)
- Laboratory analysis





# *Material Safety Data Sheet*

General Information

name, company, Haz Code,

Ingredients

highest to lowest percent

Physical/Chemical Characteristics

appearance, BP, MP, VP, SG

Fire / Explosive Hazard Data

FP, LEL, UEL, fire fighting

Reactivity Data

Stability, conditions

Health Hazard Data

Entry route, Acute & Chronic

Safe Handling Precautions

spill, neutralizing, disposal

Control Measures

protection, ventilation,

Transportation Data

DOT info

Disposal Data

Label Data

name, hazard codes, precautions





# Florida Department of Environmental Protection

## Special Rules

### 1. Mixture Rule

Any amount of  
LISTED HW

+

Any amount of  
NON-HW

=

LISTED HW

Any amount of  
CHARACTERISTIC  
HW

+

Any amount of  
NON-HW

=

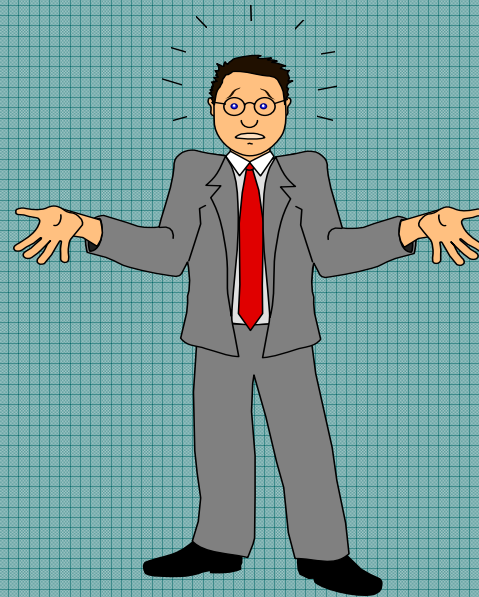
Must meet  
characteristics  
to be HW





# DOES RCRA APPLY TO YOUR OPERATIONS?

- Do you generate hazardous waste?
- How much?





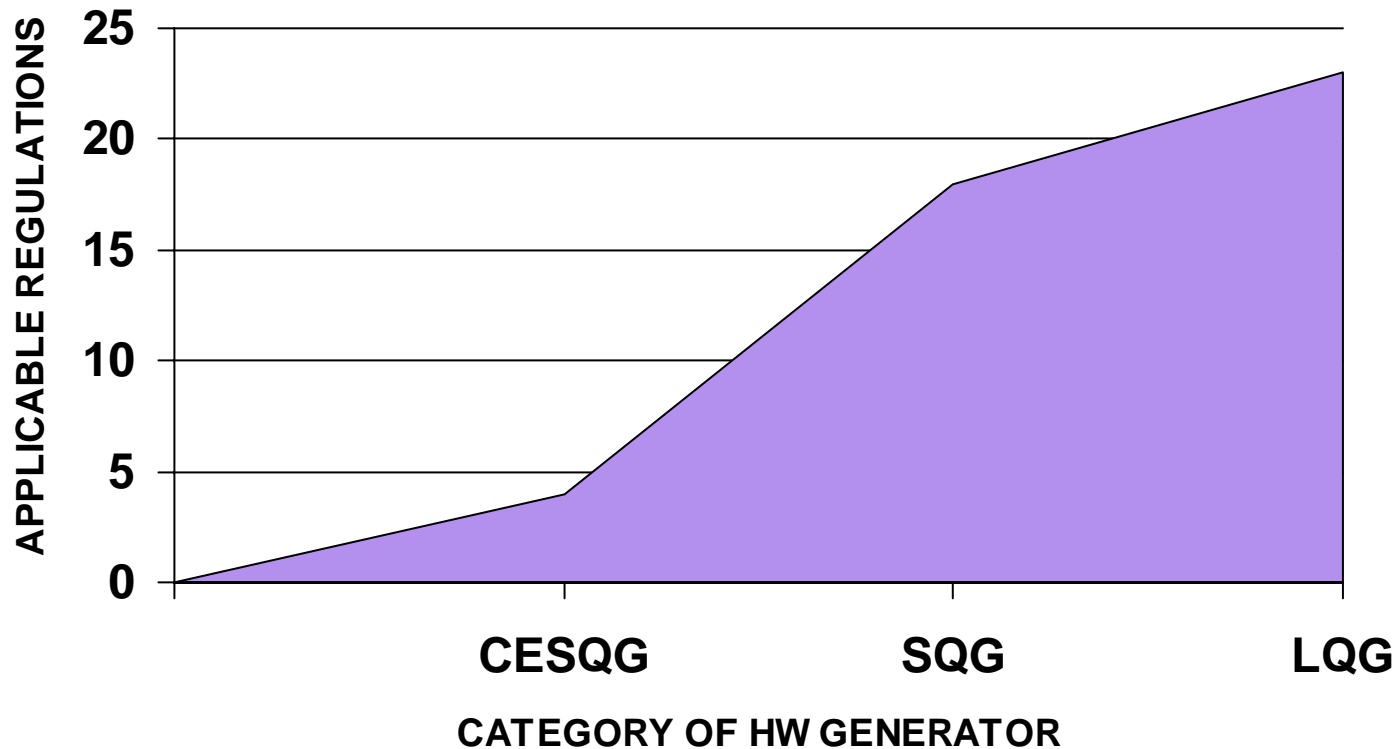
# ***Generator Status***

- Conditionally Exempt Small Quantity (CESQG)
- Small Quantity (SQG)
- Large Quantity (LQG)





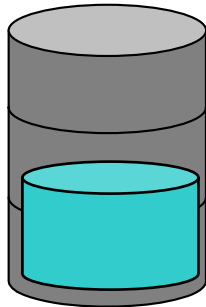
# ***REGULATORY BURDEN FOR HAZARDOUS WASTE GENERATORS***





## CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR

- Generates  $< 100$  kg (220 lbs) of HW per month.
- Generates  $< 1$ kg (2.2 lbs) of **acutely** HW per month.
- Never accumulates  $> 1000$  kg (2,200 lbs)



100 kg = approximately 1/2 55-gal drum

**Hazardous waste**





# ***SMALL QUANTITY GENERATOR***

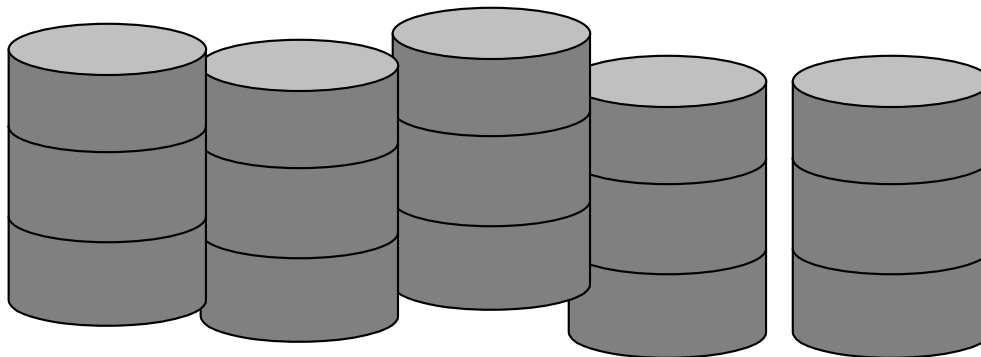
- Generates between 100 kg (220 lbs), and 1000 kg (220 lbs) of HW per month.
- Generates < 1kg (2.2 lbs) of **acutely** HW per month.
- Never accumulates > 6000 kg (13,200 lbs) and max of 180 days storage time.





# ***LARGE QUANTITY GENERATOR***

- Generates  $> 1000$  kg (2200 lbs) of HW per month.
- Generates  $> 1$  kg (2.2 lbs) of **acutely** HW per month.
- Never store waste  $> 90$  days



**or more**



## ***To Determine Size Class***

---

**You Must Count HW That Is :**

- Transported Off-Site for Treatment, Storage, or Disposal
- Treated or Disposed of On-Site
- Accumulated Prior to Recycling, Transporting, and Storage, Treatment or Disposal





## ***To Determine Size Class, Cont...***

- **You Don't Have to Count:**
  - Scrap metal that will be sent off-site for recycling
  - Used oil that has not been mixed with hazardous waste and is recycled on-site or off-site
  - Universal Waste – batteries < 2 lbs (RBRC weight limit), recalled pesticides, Hg Fluorescent bulbs, Hg devices
  - Recycled lead acid batteries > 2lbs





*Florida Department of  
Environmental Protection*

# ***Management Standards for Generators***





## CESQG

---

Reminder - < 100 kg of HW/month and accumulates  
< 1000 kg

- Perform **HW determination** and counting
- **Ensure treatment or disposal** of HW at an approved facility
- **Records** must be kept for at least three years





# SQG

Reminder - between 100 -1000 kg of HW/month and accumulates < 6000 kg

- Obtain **EPA ID Number**
- Perform **HW determination** and counting
- Use **manifest** system
- Keep **records** for three years
- **Label & package** HW properly
- Have a **modified contingency plan & train** personnel
- Meet **satellite accumulation** requirements
- Never exceed **180-day storage time limit**





## **LQG**

---

Reminder - >1000 kg of HW/month

- **SQG** requirements + more
- Never exceed **90-day storage time limit**
- File **biennial report** for HW shipped offsite
- Full **Contingency plan**
- **Emergency equipment**
- **50 foot rule**





# *Satellite Accumulation Container Requirements*

<b>Requirement</b>	<b>SAA</b>	<b>90 Day</b>
<b>Good cond</b>	<b>Yes</b>	<b>Yes</b>
<b>Compatible</b>	<b>Yes</b>	<b>Yes</b>
<b>Closed</b>	<b>Yes</b>	<b>Yes</b>
<b>Inspections</b>	<b>None</b>	<b>Weekly</b>
<b>Marking</b>	<b>“Hazardous Waste” or other</b>	<b>‘Hazardous Waste’ only</b>





# *Satellite Accumulation Container Requirements*

<b>Requirement</b>	<b>SAA</b>	<b>90 Day</b>
<b>Dating</b>	<b>Over 55 gal or 1 qt acute toxic</b>	<b>First day waste placed</b>
<b>Store Time</b>	<b>Unlimited</b>	<b>90 Days</b>
<b>Volume</b>	<b>55 gal or 1 qt acute toxic</b>	<b>Unlimited</b>
<b>Training</b>	<b>No</b>	<b>Yes</b>





# *Satellite Accumulation Container Requirements*

<b>Requirement</b>	<b>SAA</b>	<b>90 Day</b>
<b>Treat Waste</b>	<b>No</b>	<b>Yes</b>
<b>Ignitable Reactive Waste SR</b>	<b>No</b>	<b>Yes</b>
<b>Incompatible SR</b>	<b>No</b>	<b>Yes</b>
<b>Subpart CC</b>	<b>No</b>	<b>Yes</b>





# *Satellite Accumulation Container Requirements*

---

<b>Emergency Procedures</b>	<b>No</b>	<b>Yes</b>
<b>Closure</b>	<b>No</b>	<b>Yes</b>





## *Solvent Rags*

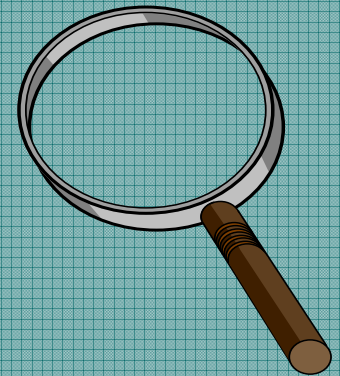
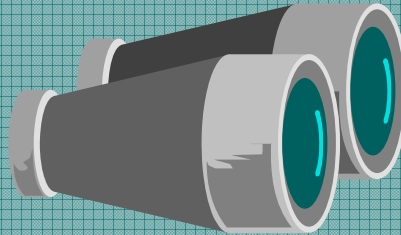
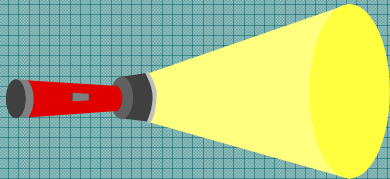
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- Reusable textiles
- Batch exchange
- Into closed container after use
- Laundry service connects to POTW
- Onsite laundry allowed if CWA permit on discharge
- Disposable wipers
- Accumulate in closed containers
- Dispose of as hazardous waste
- Note: New FR Proposal on Solvent rags (FR Vol. 68, No. 224/ Thurs., Nov. 20, 2003)



*Florida Department of  
Environmental Protection*

# *WHAT INSPECTORS LOOK FOR*



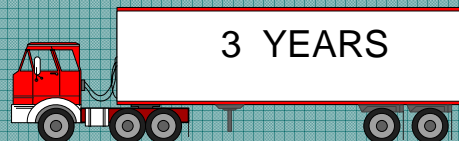
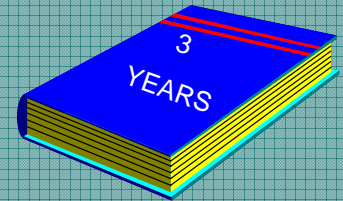






# Records

- EPA Identification number (SQG)
- Hazardous waste determinations (CES, SQG)
- Disposal receipts (CES, SQG)
- Training records (SQG)
- Modified contingency plan (SQG)
- Arrangements with local authorities (SQG)





## Container Management

- Keep drums & containers in **good condition** & properly stored (CES, SQG)
- Keep containers **closed** at all times except when adding or removing waste (CES, SQG)
- Keep containers **labeled** with the words “Hazardous Waste” (SQG)



## *Container Management, Cont....*

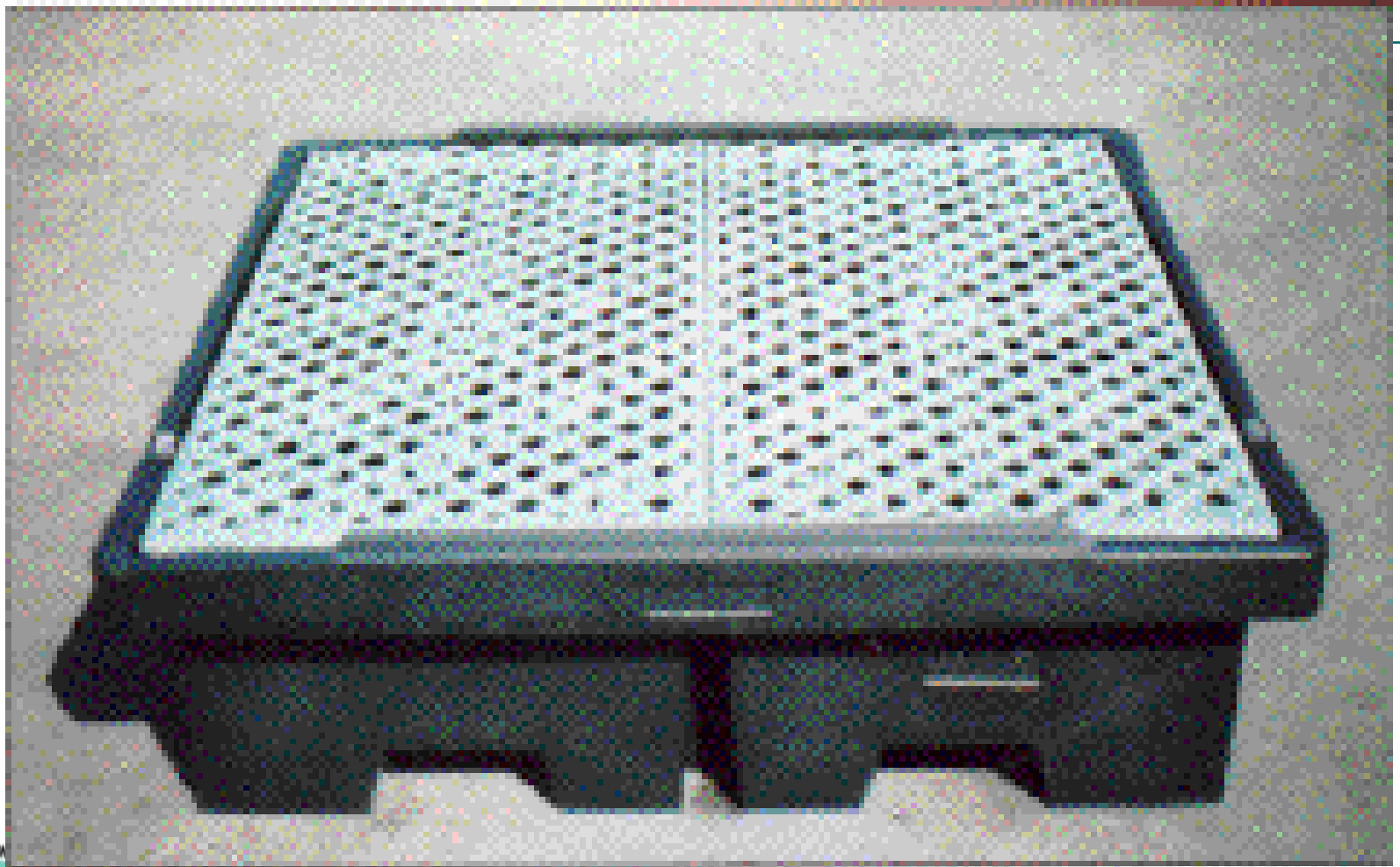
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- Mark each container with the accumulation **start date** (SQG)
- **Inspect** containers in the storage area **weekly** and document inspections (SQG)
- Don't store HW for longer than **180 days** (SQG)













# *Manifest*

---

- Complete and retain copies for 3 years
- Notify FDEP if return copy of manifest is not received within 60 days (SQG)
- Cradle to grave





## *Who must use the Manifest*

---

- **Large or Small Quantity Generators (LQG, SQG) of RCRA hazardous waste who ship their wastes off-site for Treatment Storage or Disposal (TSD) must use the Manifest (EPA form 8700-22/22A) to track these shipments.**
- **Anyone who Generates over 100 kg of RCRA waste in any one month ( or 1 kg acute) is an SQG or LQG**





# *What must you use the manifest for?*

---

- RCRA hazardous waste shipped off-site by LQGs or SQGs for Treatment, Storage, Regulated Recycling, or Disposal must be shipped using the manifest.
- Non-RCRA waste shipped off-site for Treatment Storage or Disposal by LQGs or SQGs may also be shipped using the manifest, but RCRA Waste codes must not be used in box I.





## *How does the Process work*

---

**The Generator initiates the manifest which travels with the transporter to the broker or final TSDR facility.**

**The Generator, transporter, and broker/TSDR each keep a copy**

**The broker/TSDR mails a return copy to the Generator.**

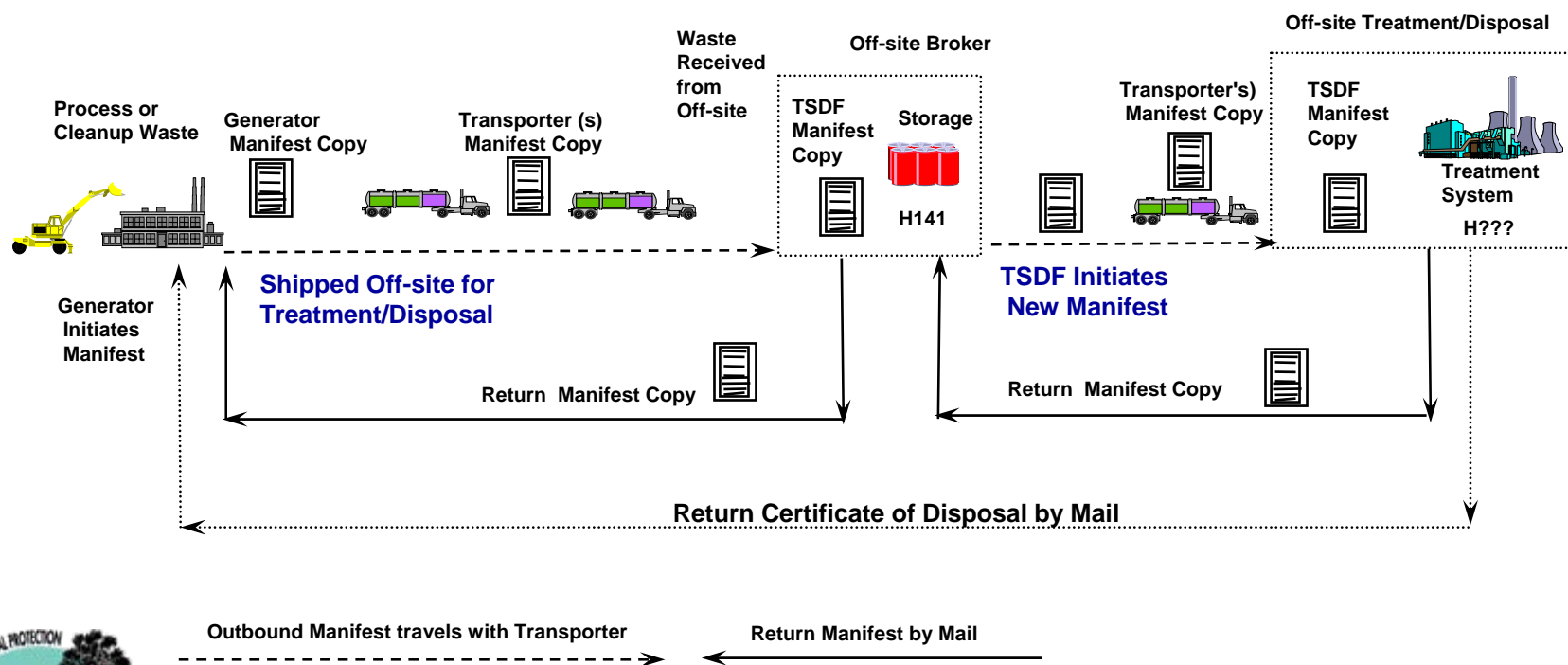
**Everybody keeps their copies for 3 years.**





# Manifest Initiation, Movement, and Copy Retention

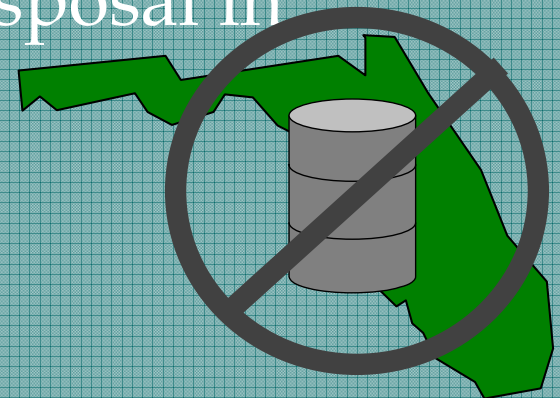
The Generator initiates the manifest which travels with the transporter to the broker or final TSDF. The Generator, transporter, and TSDR facility each keep a copy and the TSDR/broker mails a return copy to the Generator. Everybody keeps their copies for 3 years. If a broker bulks and re-ships the waste to a final TSDF site, the broker creates a new Manifest which must follow the same process. Any bulking/re-shipping broker will use H141 in box K(T).





# *Land Disposal Restriction Documentation*

- Required for initial shipment of hazardous waste off-site (same waste type on subsequent shipments)
- Retain copies for 3 years
- All untreated hazardous waste is PROHIBITED from land disposal in Florida

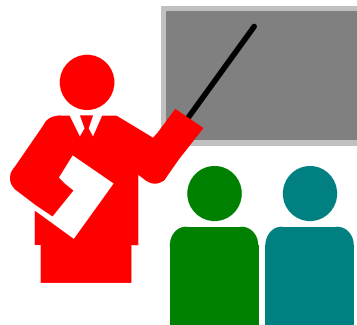




# *Training (SQG)*

---

- Site and waste specific handling procedures
- HW management procedures
- Emergency response procedures
- Safety



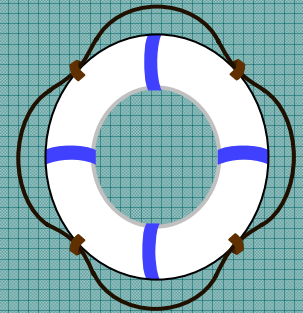


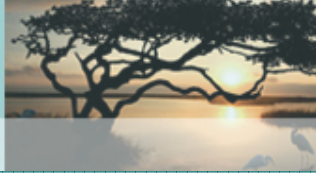


## *Modified Contingency Plan (SQG)*

---

- Emergency Coordinator (EC)
- Name and number of EC and Fire Dept. posted by the telephone
- Employees familiar with their emergency responsibilities and procedures.

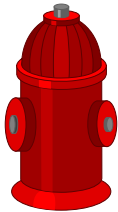




# *Preparedness and Prevention*



- Internal communications
- Method of contacting emergency response personnel

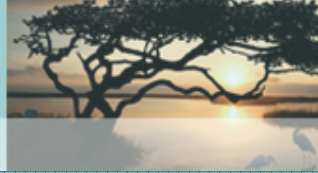


- Fire control equipment, spill control
- Adequate aisle space between containers
- Arrangements with local authorities
- Proper housekeeping



- “No-smoking” signs as needed







# CONTACTS

- **RCRA Superfund Hotline**
  - Online at [Epa.gov/rcraonline](http://Epa.gov/rcraonline) or call the national toll free number at 1-800-424-9346. For the hearing impaired the phone number is 1-800-553-7672. The hotline is open from 10 a.m. to 3 p.m. Eastern Standard time Monday through Thursday except on federal holidays.
  - **FDEP HW Compliance Assistance**
    - 850/245-8707

